KF2460 Bio Fibre Chemistry 7.5 credits

Biofibrernas kemi

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for KF2460 valid from Autumn 2011

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Chemical Science and Engineering,Chemistry and Chemical Engineering

Specific prerequisites

Admission requirements for programme students at KTH:
At least 150 credits from grades 1, 2 and 3 of which at least 110 credits from years 1 and 2, and bachelor's work must be completed, within a programme that includes:
75 university credits (hp) in chemistry or chemical engineering, 20 university credits (hp) in mathematics and 6 university credits (hp) in computer science or corresponding.

Admission requirements for independent students:
75 university credits (hp) in chemistry or chemical engineering, 20 university credits (hp) in mathematics and 6 university credits (hp) in computer science or corresponding. Documented proficiency in English corresponding to English B.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After the course the student should be able to

• Describe the morphology of wood at micro- and macroscopic level

• Have knowledge about the origin of important biofibers

• Describe chemical structure and techniques for characterization of the properties

• Give an overview of the biosynthesis of wood polymers

• Perform carbohydrate and lignin analyses

• Identify different wood materials

• Describe which chemical reactions occur during technical fiber separation processes

• Give an overview of relevant biotechnical processes used in biofiber industry

• Understand and predict how the wood and pulp hierarchical structure is affected during chemical and microbiological processes

• Describe different chemical processes /products in a wood biorefinery

• Present and analyze, oral and in written, a research area in biofiber chemistry area

Course contents

Disposition

Lectures, laboratory work, project work and study trip

Course literature

The Ljungberg textbok Biofibre Chemistry

Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- PRO1 - Project, 1.5 credits, grading scale: P, F
- TEN1 - Written exam, 4.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

Examination (TEN1; 4.5 credits)
Laboratory Work (LAB1; 1.5 credits)
Project (PRO1; 1.5 credits)

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.